

ON-LINE MEMBRANE EXTRACTION FOR REAL-TIME WATER MONITORING

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The increasing need for inexpensive, real-time monitoring devices has added new impetus to developing chemical analysis systems that integrate sampling, sample preparation and detection. One way to enhance sensitivity in these measurements is to provide concentration, and/or extraction along with other functionalities. The goal is to integrate these components to develop total analytical systems for on-line, real-time analysis.

This presentation covers some recent developments including membrane sampling and microconcentration techniques. The water monitoring devices developed here can be used as, laboratory instruments, field analytical and as on-line monitoring devices. Applications in the monitoring of different classes of compounds are covered that include volatile organics, semi-volatile organics, haloacetic acids, pesticides, pharmaceutical products and metals. Microfabricated devices using MEMS technology have also been developed, which can lead to miniaturization.